

MIND THE GAP OF LEADERSHIP: THE GENDER MENTORING PROGRAM OF THE BUILDING ENGINEERING SCHOOL

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Abstract

In order to enhance women's leadership, a Gender Mentoring Program (GMP) was implemented at the Escuela Técnica Superior de Edificación (ETSEM) from the Technical University of Madrid (UPM), during the academic year 2014-2015. This paper evaluates the GMP experience highlighting the advantages and barriers found during its implementation and giving remedial actions for the following years. The analysis carried out was mainly performed using the questionnaires answered in the sessions and the satisfaction surveys completed by all participants regarding different aspects of the GMP. Results show a high dropout rate as only 50% of the mentees completed the GMP and attended to all the sessions. 100% of them considered that the support given by the mentors was the most valued item of the Program. Moreover, 36% of mentees were very satisfied with the knowledge and the leadership experience gained, and 41% would recommend participating in the GMP. In general, the overall assessment of the Mentoring is very positive since 100% of respondents rated it above 4 (out of 5). Finally, giving ECTS credits to the mentees and reducing the duration of the program — finishing all the training sessions in September and therefore avoiding the exams period in December—, are some of the remedial actions planned to be implemented next course in order to keep up students' participation and decrease their dropout rate.

Keywords: Leadership skills, Gender, Mentoring, Building Engineering.

1 INTRODUCTION

According to the latest data published by the Spanish Ministry of Education, women were majority in Spanish universities during 2014/2015 (around 53.47%) [1]. Due to a combination of stereotypes, parent expectations and lack of female references, encourage women students to enroll in Health, Social Science and Law Degrees, despite other Degrees such as Science, Technology or Engineering, have best job opportunities [2].

The progress of women in fields such as Engineering and Architecture has been the result of hard work, struggle, hope and the success of many women to overcome discrimination and eliminate past barriers [3]. However, according to statistics from the Spanish Ministry of Education, women accounted for only 23.26% of the students enrolled in Engineering and Architecture studies during 2014/2015 [1]. This situation is not new and it is also observed in other countries, but there is growing concern in the Spanish universities as they are losing female students year after year (Fig. 1).

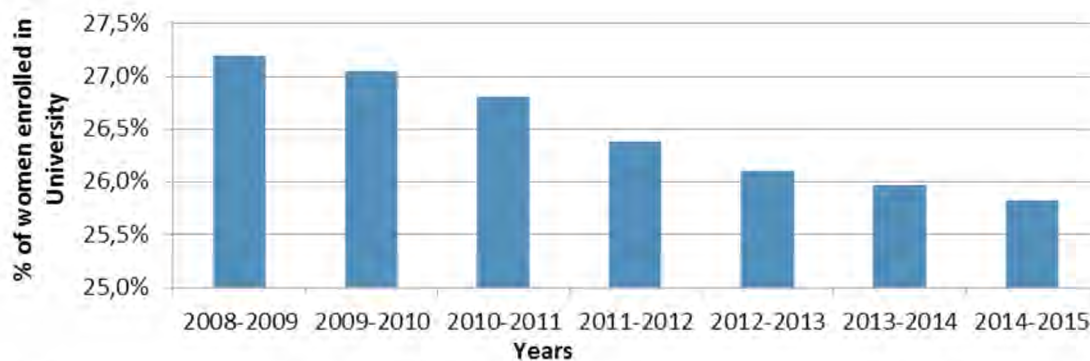


Fig. 1. Percentage of women enrolled in Engineering or Arquitectural Degrees of State Universities in Spain [1].

Presently, at the Technical University of Madrid the figures of female students have steadily increased, however, they are still far from achieving a gender equality balance. At the Technical University of Madrid (UPM), almost 70% of the students are male. However, these figures are slightly positive when talking about the presence of women in Building Engineering, as females outnumber the male students around more than 50% [4].

However, although more and more women finish Building Engineering [5], still reaching senior levels in this sector has not been achieved yet. In fact, the European Commission statistics revealed that women professionals in building construction remain a minority despite the significant changes observed in the last decades about women insertion in the working world [6]. In this sense, data shows a very low inclusion of females in technological areas, especially in engineering and architecture [4].

Moreover, strategies for people's development, such as Mentoring and Coaching sessions are increasingly common --not only for business managers and professionals, but also for students in higher education-- [7]. In this sense, today many peer mentoring programs and other activities take place within the University, in order to meet the demand of the Companies seeking professionals with a range of personal skills --which are essential for their personal success-- such as, group cohesion, communication and leadership skills (among others) [8.9]. For this reason, this project aims to provide, female students of Building Engineering, several personal skills in order to enhance their leadership and help them achieve an added value to their curriculum when they enter the business world.

2 PROJECT DEVELOPMENT

Initially, a total of 45 first-year woman-students participated as mentees in this experience, and were trained and supported by 6 mentors. Small groups of 4-6 mentees were formed. The GMP consisted on four one-hour sessions where mentors and mentees worked on three leadership qualities: (1) Communication, (2) Self-confidence and (3) Dedication:

- 1 September: Presentation. Defining a Leader. Types of Leader. Outline five skills a good leader must have.
- 2 October: Communication skills training.
- 3 November: Self-confidence training.
- 4 December: Dedication training.

The sessions took place once a month --from September to December 2014—. Specific procedures and surveys were developed for each training skill, in order to guide and help the mentors going through the different sessions. These documents allow not only to harmonize the sessions --conducted by different mentors--, but also to achieve results that can be compared between the different mentees' groups.

The data collection was based on the mentees' personal evaluation given in the anonymous surveys.

Later, in January 2015, the closing ceremony and final evaluation took place. During this ceremony participants shared their experience and several improvement actions were discussed. Finally, mentees' were asked to fill in the last survey by answering the following questions using a 5 point Likert scale (1 - not agree and 5- totally agree):

- Was the information given about the gender mentoring program (GMP) sufficient and adequate?
- Would you recommend other colleagues to participate in the GMP?
- Do you think the duration of the GMP is appropriate?
- Have you received the necessary support and guidance from the Mentor?
- Are you satisfied with the knowledge and the experience acquired with the GMP?
- Did you practice your skills and improved?
- Would you be interested in participating as a mentor in future courses?
- Overall rating of the GMP

Data analysis was mainly performed using the answers of the session questionnaires and the final survey regarding different aspects of the GMP --answered by all the mentees--.

3 RESULTS AND DISCUSSION

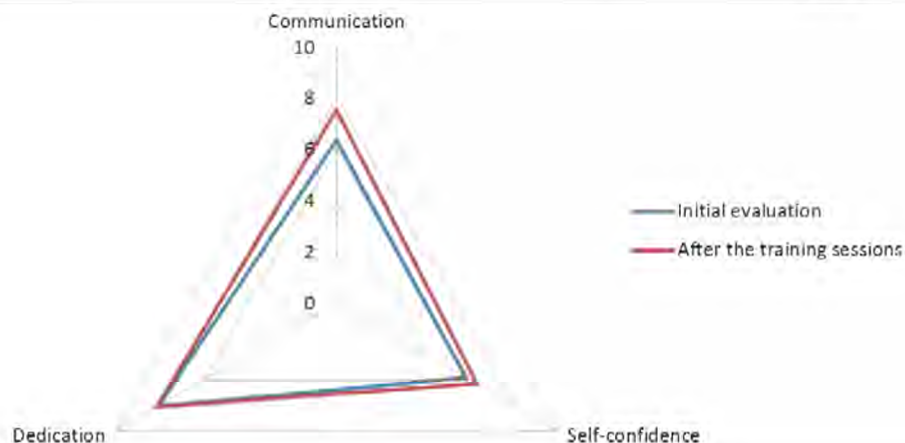
Results show a high dropout rate as only 50% of the mentees completed the GMP and attended to all the sessions. The results obtained are divided in the following sections: mentees' personal evaluation and the overall GMP assessment.

3.1 Mentees' personal evaluation in leadership skills

Results from the first session survey are shown in table 1. Mentees rated themselves with the highest value in dedication skills, in both cases. This means they can easily spend the needed time and energy on a task to get the job done. This issue can be explained as all the mentees have had to dedicate many of their time to study in order to reach the University Degree.

Table 1. Mentees' evaluation in Leadership skills (Mean values).

Skill	Initial evaluation	After the training sessions
Communication	6.34	7.54
Self-confidence	5.82	6.32
Dedication	8.06	8.12



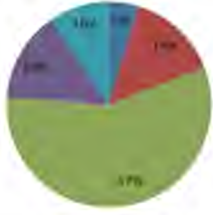







By contrast, self-confidence was the least valued skill. This result is quite reasonable, as mentees were chosen from first-year students and self-confidence is mainly achieved with the experience. It is also noted that mentees rated themselves slightly better after the training session, in all the three skills.

3.2 Gender Mentoring Program (GMP) overall evaluation

Table 2 show the percentage of mentees which selected a specific value and the mean value achieved for all the mentees. Results show that 100% of the mentees considered that the support given by the mentors was the most valued item of the Program (scored over 4.0). Moreover, 36% of mentees were very satisfied with the knowledge and the leadership experience gained, and 41% would recommend participating in the GMP.

Table 2. GMP Final Evaluation.

Was the information given about the gender mentoring program (GMP) sufficient and adequate?	Would you recommend other colleagues to participate in the GMP?
 <p>Mean Value: 3.86</p>	 <p>Mean Value: 4.23</p>
Do you think the duration of the GMP is appropriate?	Have you received the necessary support and guidance from the Mentor?
 <p>Mean Value: 3.10</p>	 <p>Mean Value: 4.77</p>
Are you satisfied with the knowledge and the experience acquired with the GMP?	Did you practice your skills and improved?
 <p>Mean Value: 4.27</p>	 <p>Mean Value: 3.55</p>
Would you be interested in participating as a mentor in future courses?	Overall rating of the GMP
 <p>Mean Value: 3.14</p>	 <p>Mean Value: 4.18</p>

When analyzing the questions regarding the GMP duration and the mentees' interest in participating as a mentor in the future years, greater disparity of results were seen. Only 24% of respondents found that the project duration was "very adequate" or "adequate", compared to 19% which felt that the duration was not so appropriate. When respondents were asked if they would participate next year as a mentor, more than 50% of respondents answered below 3, in fact 4% answered 1. This lack of interest can be due to the great effort needed to prepare and organize the sessions. This situation can be solved by giving some rewards to the mentors, such as giving them a few ECTS credits.

Further, only 45% of respondents claimed to have practiced and improved mentoring skills. Finally, the overall assessment of the GMP is very positive since 100% of respondents rated it above 4 (out of 5).

Moreover, the following issues were the most frequently written in the "other comments" section:

- The sessions should take place in the early beginning of the course, not mixing with exams.
- The meetings should be performed with more frequency (once a week or two).

- The duration of the sessions should be extended in order to process and consolidate all the information.
- Some ECTS credits should be given when attending and participating in the Project.

Finally, the GMP project will be repeated –including some remedial actions– next course with students with best academic records.

4 CONCLUSIONS

The development of new learning-environments in which students can develop their skills, such as leadership, is a Lecturers' responsibility within the European Higher Education Area. In this paper, a gender mentoring program was introduced to promote women's leadership in Building Engineering. However, despite a mentoring program should be geared to new students, it is essential to track these students along the whole Degree. Based on the results presented in this paper, the overall assessment of the project was very positive (4 of 5). However, the heavy homework load that first year students usually have and the huge change they experience –from academic high school level to University–, mentees do not value the opportunity of the program and around 50% abandon. Undoubtedly, giving ECTS credits to the mentees and reducing the duration of the program -finishing all the training sessions in September –and therefore avoiding the exams period– will definitely keep up students' participation and decrease their dropout rate.

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